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Maisha
7/8/02

APPLICANT: Steve W. Braun et al.

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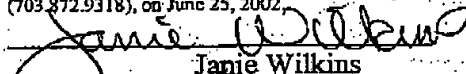
EXAMINER: Hemang Sanghavi

FOR: OPTICAL TRANSPORT SYSTEM

Assistant Commissioner for Patents
Washington, D.C. 20231

ATTORNEY DOCKET NO.: L6780/251099

CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being sent to the
United States Patent Office, TC2800, via facsimile, to number
(703.872.9318), on June 25, 2002.
Jamie Wilkins

DATE: June 25, 2002

INTERVIEW SUMMARY

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JUN 25 2002

Dear Sir:

TECHNOLOGY CENTER 2800

The Examiner is thanked for the courtesies extended during the interview on June 19, 2002. As reflected in the Interview Summary form, the references submitted in the Information Disclosure Statement (IDS) was discussed as well as the structure of the claims. The Examiner had asked that a brief written description of the references be provided, which is set forth in the description below.

As mentioned during the interview, the references submitted in the IDS had been carefully considered prior to initiating the Reissue Application. Several categories or groups of references were identified and were discussed during the interview. A first group of references describes bi-directional optical networks having passive couplers. Some examples of references in this category include U.S. Patent No. 5,809,187 to Peck and U.S. Patent No. 4,810,052 to Fling. These types of optical networks are generally limited in the

number of nodes or stations that may be connected to the bus due to the successive reduction in signal strength with the diversion of the signals to each node. Because these systems cannot accommodate a large number of nodes, the systems are limited in their applications.

A second group of references is generally directed to bi-directional optical networks with passive couplers and regeneration techniques. U.S. Patent No. 4,671,608 to Konishi, U.K. Patent Document No. 2,102,232 to Chown et al., and U.K. Patent Document No. 2,087,690 to Gardner are examples of references in this second category. These optical networks are essentially point-to-point networks in that optical signals are received, converted into electrical signals, and then regenerated into optical signals at each node. These types of networks generally offer lower signal quality and speed due to the need to regenerate the optical signals.

A third category of references discloses optical networks that have fiber amplifiers. U.S. Patent No. 5,369,516 to Uchida, U.S. Patent No. 5,058,974 to Mollenauer, European Patent Application No. EP 0 739 103, an article by Hodara et al. entitled "High-Speed Local Area Networks," and an article by M. Lopez-Amo entitled "Wavelength-Division-Multiplexed Distributed Optical Fiber Amplifier Bus Network For Data and Sensors" are examples of documents in this third category. Many of the references in this third category describe optical networks having communication in only one direction and/or uni-directional amplification. To obtain amplification of signals that travel in both directions along a fiber, these patents generally describe the use of two sets of fiber-doped amplifiers, often with the use of circulators or isolators.

As discussed during the interview, the claimed invention recites a novel combination

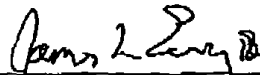
of elements not found nor suggested in the references. For example, the claims recite a bi-directional bus which is in contrast to a point-to-point, ring, or star network topologies. The claims also recite passive couplers for directing optical signals in both directions along the bi-directional bus and which also direct signals traveling in both directions along the bus to each node. These passive couplers are in contrast to the re-generation technique disclosed in some of the references. The claims also recite bi-directional optical amplifiers for amplifying the signals traveling in both directions along the bi-directional bus. Again, as discussed above, many of the references submitted in the IDS are uni-directional amplifiers which require the use of isolators or circulators. The claimed optical network simultaneously supports multiple protocols, modulation techniques, and multiplexing techniques.

An optical network according to the invention offers many benefits over conventional optical networks. For example, nodes can be rather easily added to the network and the network is scalable. Whereas conventional networks may be limited in the number of nodes that can be added, networks according to the invention can have a large number of nodes connected to it and are not restricted due to coupling losses. The approach reflected in the claimed invention of "wasting photons" is markedly different than the typical telecom approach and is not suggested by the references.

The Examiner is encouraged to independently review the above-mentioned references as well as all of the references submitted in the IDS. The Examiner is also encouraged to

telephone the undersigned in the event that he does not find the claims to be in condition for allowance.

Respectfully submitted,



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